



A TACET Service Idea

# DVD AUDIO! REAL SURROUND SOUND!

All I need to know.

What else should I keep in mind?  
(For example when buying equipment.)

## Answers

to the most frequently asked questions about  
DVD Audios in TACET Real Surround Sound

"Effective and subtle"

This must be the most musical listening  
experience of all times available on disc.

TACET DVD audios can be  
played on any DVD surround system.



## Contents

<b><u>- What is DVD audio?</u></b>	<b><u>Page 3</u></b>
<b><u>- What is the advantage of Real Surround Sound?</u></b>	<b><u>Page 4</u></b>
<b><u>- What is a music enactor and what makes him (or her) different from a classical tonmeister or sound engineer?</u></b>	<b><u>Page 4</u></b>
<b><u>- Isn't it unpleasant hearing music from behind?</u></b>	<b><u>Page 6</u></b>
<b><u>- Are TACET DVDs "Audio DVDs" or "Video DVDs"?</u></b>	<b><u>Page 7</u></b>
<b><u>- What sort of DVD player do I need?</u></b>	<b><u>Page 7</u></b>
<b><u>- Can TACET DVDs be played on SACD players?</u></b>	<b><u>Page 7</u></b>
<b><u>- How should I adjust my DVD video player?</u></b>	<b><u>Page 8</u></b>
<b><u>- Can I carry on using my old stereo amplifier?</u></b>	<b><u>Page 8</u></b>
<b><u>- What sort of surround amplifier do I need?</u></b>	<b><u>Page 8</u></b>
<b><u>- Do I need a Decoder?</u></b>	<b><u>Page 8</u></b>
<b><u>- How do I wire up my DVD player to the surround amplifier?</u></b>	<b><u>Page 8</u></b>
<b><u>- How should I adjust the surround amplifier?</u></b>	<b><u>Page 9</u></b>
<b><u>- Can I carry on using my old speakers?</u></b>	<b><u>Page 9</u></b>
<b><u>- How many speakers do I need?</u></b>	<b><u>Page 9</u></b>
<b><u>- How should I position the speakers?</u></b>	<b><u>Page 9</u></b>
<b><u>- What is the degree of definition of TACET DVD Audio?</u></b>	<b><u>Page 10</u></b>
<b><u>- Who or what is TACET?</u></b>	<b><u>Page 11</u></b>
<b><u>- TACET DVD Audio Productions</u></b>	<b><u>Page 12</u></b>

## **What is DVD audio?**

DVD audio does away with dual-channel sound. The music does not just come from two channels (in front) as with conventional stereo, but from several channels (from all sides). It is this multi-channel function which makes Surround Sound possible.

A DVD audio looks like a CD or a CD-ROM but has a different structure and many times more storage capacity. This high capacity was originally developed for the computer and video market (DVD video). So DVD is not only a new sound carrier, but a complete system – and (together with TACET Real Surround Sound) a performance and music reproduction philosophy. What you hear is surround sound: "information", ideally music, embraces the listener from all sides. Music becomes more transparent; the composition shows its miracles. From the point of view of recording technology, the DVD (= Digital Versatile Disc) offers infinitely more possibilities than the conventional CD.

The entire audio space is used for the musical experience; the rear channels and speakers can also pass on spatial information (instead of music). The listener thinks (s)he is sitting in a real concert hall (or wherever). Spatial information like this is important for an authentic impression. But the multi-channel feature offers more facets than "merely" spatial information. One can leave it at that: with spatial information, but that would mean not using the new potential to the full.

At TACET we distinguish between more conventional surround sound and "TACET Real Surround Sound". The latter means that all the musical information is distributed equally across all the channels, with musical information from each channel. The number of channels is five plus one. Each occupied channel offers music and not "just" spatial information (apart from a few deliberately chosen exceptions, for example with pure organ music, with no other instruments, where the space "accompanies" the playing, and is heard through several channels). The impression of space is also present in the recordings where there is music on each channel.

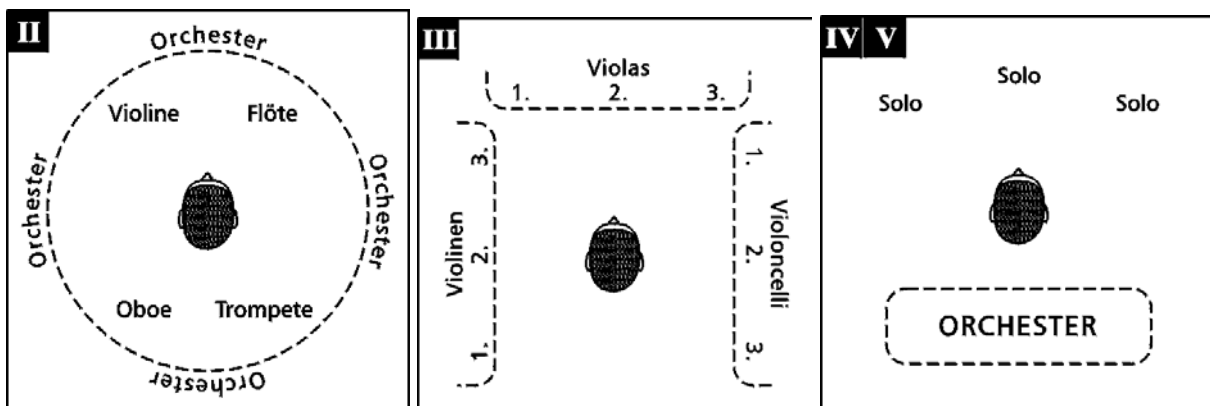
In the opinion of lovers of TACET Real Surround Sound a surround sound which makes full use of the front channels for music but only uses the rear ones for atmosphere, is not "real" surround sound. In TACET DVD audio productions the listener sits in the middle of the acoustic event, in between the musicians. Real musical multi-channel in Real Surround Sound is more than "three-dimensional".

The listener can now experience music as the musicians do themselves, where ideally each player listens to all the others. The tonmeister, sound engineer or music enactor discusses with the musicians where the listener should sit amongst the performers: right in the middle or elsewhere. For example, (s)he can hear the soloists from the front (from left to right), and the orchestra plays behind him. He hears the orchestra as the musicians do, from behind. Alternatively, the soloists play in the front left, front right, back left and right back, and the orchestra can be heard from all sides; another possibility is for one group of solo instruments to be heard from the left and another from the right, each from front to back.

The possibilities of giving music a platform and performing it are almost endless. (All the examples we have named can be heard on DVD TACET D101.)

This really works with TACET Real Surround Sound which gives all channels equal weighting and uses them creatively. Up to now, other forms of surround sound have often been merely extended stereo. Technically, sound-wise and artistically, TACET Real Surround Sound (on DVD audio) is the realisation of the old idea of the perfect recording. Music can now be experienced and understood more directly.

TACET DVD audios in TACET Real Surround Sound do not require special DVD equipment; they can be played on all commercially available DVD surround systems including DVD video(!) systems with surround sound. The slogan for TACET DVD audios is: "effective and subtle".



Positioning of the musicians for the Brandenburg Concertos nos. 2, 3, 4 and 5 (DVD TACET D101)

### **What is the advantage of Real Surround Sound?**

### **What does a music enactor do and what makes him (or her) different from a classical tonmeister or sound engineer?**

Music on DVD audios in TACET Real Surround Sound is staged music; more precisely acoustically enacted music. The listener sits in the middle of the acoustic event and hears the music from several channels, from several speakers. However the music is not spread haphazardly amongst the channels, but subject to the music enactor's (Musikregisseur) plan right from the start. The quality of this plan depends on the creativity of the music enactor and his (or her) good taste and careful attention to the composer's intentions. A good enactor knows the secrets of the score.

His musical dramatisation must not oppose the score but be justified by it. In addition the multi-channel feature allows certain freedoms and experimentation with the enactment of the score. But to avoid any misunderstanding, the musicians determine the way the music is played, as they always have.

The multi-channel feature enables some aims of the composer to be realised on sound carrier for the first time. This is another reason why TACET Real Surround Sound is more than just an extension of stereo. Not only does it offer more spatial atmosphere but it is a planned introduction to a new listening dimension. It is a matter of enacting music.

The music is given a stage all around the listener. By means of real multichannel sound, with musical information all the way round. This is what makes standard multi-channel sound into TACET Real Surround Sound

This requires the new profession of the music enactor (or director). It arose from that of the classical tonmeister, a tonmeister with creative ambitions and skills. Technology has been transformed; listeners have changed their standards; professions change. Tonmeisters have until now been the great unknown in the consciousness of most music listeners. In recent years music critics have paid more and more attention to the work of the tonmeister. Through the acoustic enactment of music, musical reviews can now gain new subject matter and a new aspect to assess.

Tonmeisters have a complicated and highly skilled job. Which surroundings are the best choice for certain music? Where should which microphones be placed and pointing in which direction in order to capture the best sound? Which technical equipment is needed for this? Under what circumstances do the instruments sound best?..How does one balance the volume ratios? How does one control the distances (foreground, middle, background)? What acoustic or pseudo-acoustic effects must be used? What about the echo? What sound picture is desired?...

The tonmeister supervises and takes care of the whole production. The artists have their own ideas of how the music should be played. The tonmeister ensures that the artistic intentions of the players are realised on the disc. But who takes care of the composer's intention? Do "illogical" or "uninteresting" sections of recording (takes) have to be discussed and redone if necessary?

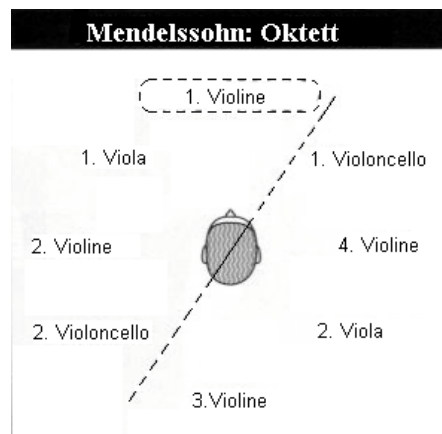
The tonmeister takes the place of the missing audience and hears every nuance; he is the animateur, even for the greatest artists; and he supervises the tempi, the pitch, the colour and the volume - in particular at possible subsequent edit points. In order that harmonious sounding cuts can be made: so that the preceding or following takes are not abruptly different.

The tonmeister is the contact and commentator for the whole event. He has to remove any disturbances: sounds from the room or the equipment, coughs, rustling paper, creaking chairs. He then edits the different takes into the final version. Before and after the provisional final version he takes into account the musicians' requests for any change.

The music enactor needs all this as his basic skill kit; and as a music enactor for TACET Real Surround Sound productions he has additional duties. Extra thought has to be given to acoustic staging. How should the instruments or groups of instruments be distributed around the room? What sounds or mixtures of sounds should be produced through which channels? How should the all-round spatial atmosphere be included? What should the musicians try out additionally to give the listener who is subsequently to sit in the middle the greatest listening pleasure? (S)he will experience music on a higher plane and should be "carried along" - with her or his whole being.

Staged music on TACET DVD audios provides the listener with greater gain and an undreamed-of extension of the musical horizon. For example with Octet op. 20 and Quartet op. 44 by Felix Mendelssohn, played by the Aurn Quartet and the Minguet Quartet (DVD TACET D 94).

Never before could one hear this octet as if played by four(!) string trios(!). Wherever one sits and whichever direction one listens in, one always hears a string trio.



Positioning of the musicians for Mendelssohn's Octet (DVD TACET D94)

The result is a wonderful balance of high and low instruments from each direction. If one mentally cuts the all-round sound into two equal halves, then regardless of where the cut is made one hears two string quartets. The most common cut which Mendelssohn made with this idea of enactment is one slightly to the right. The work has crazy combinations of parts. Looking at the score one can understand the complexity, and now one can follow the hasty sequences and confusion acoustically: by means of skilled staging of the music via several channels!

And in addition, the members of an octet feel like part of a large orchestra when compared with a string quartet. For the listener this effect cannot really be reproduced by a stereo recording: quite often the cellos and violas sitting next to each other sound muffled. The spread-out, circular positioning of the instruments, the unusual juxtaposition (violas and cellos are now seated opposite rather than alongside each other) and the multi-channel reproduction - with the listener in the middle - prevent that muffled sound. The composer's wishes are now made clear.

**Isn't it unpleasant hearing music from behind?**

It's not unpleasant but it's a little strange at first. And yet "music from behind " has been around for centuries; and this still fails to describe the real surround listening experience. The music comes equally from the different channels, including from behind; in a few recordings it is only from behind.

This is the acoustic staging of music, which musicians have always been used to: soloists stand at the front and hear the accompaniment from behind - and feel supported by this security. With TACET Real Surround Sound, the ordinary listener can now enjoy the position of a musician. People sit in a circle to play house music and everyone hears from the sides and sometimes from behind. In baroque times, the prince and his court sitting at the opera naturally heard the orchestra and singers from the front (with a large number of listeners, frontal listening is easiest). But even at court banquets the musicians were spread out. The prince or lord of the manor sat where he chose and enjoyed the music from the positions he chose. In Renaissance times church musicians were positioned all around a cathedral; music came from behind and/or above. Organ music in church often comes from behind.

Music from behind can be more suggestive. Frontal listening, i.e. where all the musicians are in front of the listener, is rather a product of the Romantic era with its concert halls and bourgeois audience. With music "only from behind" (e.g. organ music) on DVD audio, the spatial atmosphere is added by the other channels. Or all the other channels provide music (and spatial atmosphere), acoustically staged. That's when you can experience Tacet Real Surround Sound to the full.

### **Are TACET DVDs " Audio DVDs" or " Video DVDs"?**

Both. On these DVDs the music has been stored twice: once as audio (linear PCM) for the new high-quality DVD audio players - and once in "Dolby Digital" format, for DVD video players. The players recognise the most suitable format and play it automatically. And even if they are played on DVD video equipment, TACET DVDs do not contain any pictorial information; they purely reproduce music. TACET DVD-Audios do not need a picture; why should they?

### **What sort of DVD player do I need?**

TACET-DVD audios can be played on any DVD player. But the best sound quality is provided by DVD audio players.

If you're a practically-minded person you will be inclined to go out and buy a combination player which can play different formats (e.g. DVD Video, DVD Audio, CD, SACD). But be sure to check that the player has a surround (which almost all of them do). And don't forget that to enjoy Surround Sound you will need a surround amplifier and 5 + 1 speakers in addition to the DVD player.

### **Can TACET DVDs be played on SACD players?**

Yes, but only if SACD player is also designed for DVD reproduction. TACET chose DVD as a medium (or sound-carrier) because right from the start DVD was designed for multi-channel playing. This applies both to DVD video and to DVD audio.

### **How should I adjust my DVD video player?**

With almost all DVD players you can select the type of audio output you require. Make sure that the DVD does not carry out an internal mixdown to two channels. Some systems are set that way by the manufacturer. The various separate channels of a DVD would thus be mixed together and distributed arbitrarily across two channels. (DVD audio players on the other hand are set to 5+1 channels, which is correct.) Pay attention that the display on DVD video players shows "Dolby Digital" and not "Dolby Pro Logic" or "Dolby Surround"!

### **Can I carry on using my old stereo amplifier?**

No! Sorry! You could possibly use two more conventional stereo amplifiers, but you would run into difficulties adjusting the volume. Also there are DVD players with only one analogue stereo output in addition to the digital output: in this case you can't hear the rear channels. The digital output on a DVD player is no use if you are operating a conventional stereo amplifier because a stereo amplifier does not have a digital input. (TACET will continue to offer some recordings in TACET Real Surround Sound on DVD and also on conventional stereo CD.)

### **What sort of surround amplifier do I need?**

Make sure that it has both 5+1 (or more) analogue inputs and also a digital input. Then you are equipped for all eventualities. This will mean the amplifier contains a decoder – just in case the DVD player does not. More details about this in the next section. Also the so-called bass management, a function in the amplifier, is interesting.

### **Do I need a Decoder?**

You need one to decode the DVD Video sound. Not to decode DVD Audio sound. The decoder is normally integrated into the surround amplifier, or is included in the DVD Video player. Alternatively an external decoder has been interconnected. One function of the decoder is to divide up the digital signal (1 cable) into 5 + 1 analogue channels (6 cables). So if you wish to listen to TACET Real Surround Sound on DVD Audio you do not necessarily need a decoder; however it should be there somewhere – as explained above– as you are sure to want to watch and listen to movies (DVD-Video) or listen to the DVD Video sound of TACET DVD Audios.

### **How do I wire up my DVD player to the surround amplifier?**

If it is a DVD audio player we recommend that you plug the 5+1 analogue outputs to the corresponding inputs of the amplifier. If the DVD video player does not have enough analogue outputs then connect up to the digital input of the amplifier or decoder.



### **How should I adjust the surround amplifier?**

In the case of a DVD audio player, use the 5+1 separate inputs. Set your amplifier to "Extern Decoder Input" or "Extern Decoder". These are only two names out of many. So consult the manufacturer's instructions. For a DVD video player set the amplifier to "DVD" or "Digital Input" (again for the precise term consult the instructions). The amplifier should then automatically carry out further adjustments. Take care that it does not show "Dolby Pro Logic" or "Dolby Surround" but "Dolby Digital". If it shows "Dolby Pro Logic", "Dolby Surround" or anything different you must check if your DVD video player really does put out on 5+1 channels.

Initially, set all channels to the same volume - without any time delay for any channel. Only adjust the volume and time delay if the speakers have noticeable differences. Dispense with additional settings like "Movie Theatre", "Disco", "Rock Concert", "Concert Hall" or similar.

### **Can I carry on using my old speakers?**

Yes. For stereo it has always been important to have two identical speakers. Surround reproduction (multi-channel function) is more "tolerant" in this respect. The other speakers do not have to be identical to the two speakers of the stereo system; if they are, that's ideal. So in addition to the two existing speakers you must purchase three more and if desired a subwoofer. (Out of your existing stereo system you can only use the two speakers for surround sound; stereo CD players and stereo amplifiers cannot be used.)

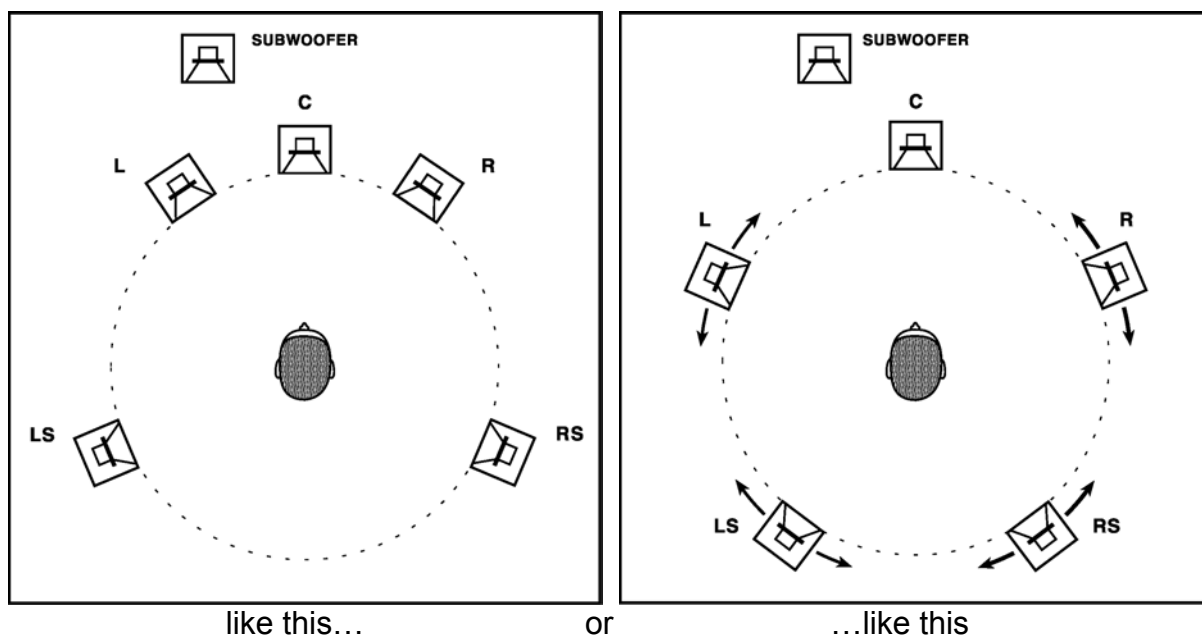
If the two rear speakers are not identical to the front ones, that is no problem because with TACET recordings we take this into account in our sound staging. The quality of "rear speakers" is very high these days, quite adequate for high-standard surround sound reproduction. The effect is mainly provided by the multi-channel function.

### **How many speakers do I need?**

In order to enjoy the sound refinement of DVDs to the full you need a system with more than two speakers. Surround systems with the 5+1 standard, i.e. 5 speakers plus 1 subwoofer, are the most common. (The bass speaker or subwoofer is interesting with amplifier bass management). TACET DVDs are designed for these systems. For artistic reasons, not all the channels are occupied in all recordings. For example, the special bass channel is often left empty. You still do not need to make any alterations however. The bass channel was originally intended for effect with movies.

### **How should I position the speakers?**

In an imaginary circle with you the listener sitting in the middle. The more evenly the speakers are spaced around this imaginary circle the better. If adjacent speakers are too close to each other or too far apart, this detracts from your perception of direction. The quality of the sound however and the musical enjoyment will be roughly the same. With the 5+1 system the speakers do not have to be positioned at different heights.



### **What is the degree of definition of TACET DVD Audio?**

The combination of 5 channels with one effect channel (subwoofer speaker) is the most common surround format in the world. That's why TACET Real Surround Sound recordings are fully compatible. TACET DVDs can be played on any DVD surround equipment, or equally on any video DVD player.

Each separate channel of a TACET Real Surround Sound recording provides higher sound quality than the channels of a stereo CD! This is because stereo CD channels have a sampling frequency of "only" 44 100 Hz. Producers of DVD audios, on the other hand, normally offer 48 000 Hz or 96 000 Hz sampling frequency. TACET now produces for a sampling frequency of 96 000 Hz. And on TACET DVDs, 16 bit vertical definition (for stereo CD) has now become 24 bit.

Although the sampling frequency of 96 000 Hz on a DVD requires a higher capacity than 48 000 Hz, neither the multi-channel facility nor the particularly long playing time had to be sacrificed. This was made possible by the MLP process (Meridian Lossless Packaging, a loss-free data reduction). Both DVD sampling frequencies (48 000 Hz and 96 000 Hz) provide brilliant sound.

Your DVD playing equipment will tell you how many channels are occupied by music or spatial information and the sampling frequency of the music recording. If 48 000 Hz are shown on the display, nobody should worry about a loss of sound quality: this is already the very best sound quality. It is academic whether everybody's ears can really hear a sampling frequency of 96 000 Hz as a sound improvement; this question has stimulated much amusing and heated discussion.

The crucial factor is the care and creativity which go into the recording, the mastery of the musicians, and the knowledge and skill of the musical enactor about the secrets of Real Surround Sound. In the accompanying booklet with every TACET DVD-Audio production the musical directing policy for the particular recording is explained optically and in writing. Music lovers have already complained about how little information there is in the booklets of other Audio DVDs (currently): not enough about Surround Sound, very little about the planning; about how the music was recorded and why. TACET on the other hand offers real information in the booklets.

Also, on the packaging, TACET informs you clearly that you are buying DVD audio and Real Surround Sound: in order to avoid any misunderstanding and to inform buyers actively that this really is the hard-won Real Surround Sound.

### **Who is TACET?**

TACET is a musical producer and a pioneer of DVD audio productions in Real Surround Sound. TACET is also the brand name for TACET DVDs, CDs and LPs. TACET followed a policy of multi-channel musical DVDs right from the start, not just "extended" stereo. The company has been working on DVD audio since 1997, with creative Surround Sound. The first DVD production was released in 2000, which is not without a certain symbolism.

TACET was founded in 1989. It is a small company in Bad Cannstatt, Stuttgart, close to the Kurpark. From the very beginning the thinking behind TACET was innovative and "two-track" - in other words both musically and technically new.

TACET produces music for the most discerning of listeners: on CDs, on LPs and on DVD audio; but that does not mean the music is produced for a minority of classical music fans: on the contrary, the circle of enthusiasts grows steadily - because TACET productions are a way of rediscovering music. With all their fire, with all their sensual charm - and in their natural and staged fullness.

TACET means audiophile quality products with ecstatic reviews from the musical press, radio and newspapers. The man who "calls the tune" is not a manager or CEO, but the owner and founder himself: Andreas Spreer, musician and much acclaimed tonmeister graduate. In December 2002 he was awarded the Certificate of Honour of the "Preis der deutschen Schallplattenkritik" (German Music Critics' Award) for "... some of the most convincing multi-channel productions of classical music..."

In terms of sound, Tacet is always on the look-out for the most "natural" result. With CDs this is surprisingly often achieved with a minimum of technical effort, but with a maximum of careful planning and the very best equipment.

Unconventional thinking (as for example with the DVD audios) and vast skill and knowledge mean that TACET musical experiences and events are not only impressive but entirely convincing. Tacet stands for unusual artistic concepts (even more so with CDs and DVD audio), outstanding musical personalities and audiophile sounds.

The composers' intentions are supported by the individual recording technique, and the musicians' ideas are clarified. You can experience this on TACET DVD audio even more clearly and intensively than on the already highly transparent and sensuous sounding TACET CDs. The TACET sound is basic, sensuous and subtle, and on DVD it is even more effective.

Version 2.0

© 2003 TACET

Original text in German by: Ulrich Oesterle

Responsible for the text: Andreas Spreer

Translation: Jenny Poole-Hardt

Information is given to the best of our knowledge.

Subject to technical alterations.

No liability of any kind will be accepted.

[www.tacet.de](http://www.tacet.de)

### ***DVD Audio Productions from TACET***

also playable on any DVD video surround sound system

#### **TACET D101**

Johann Sebastian Bach

The Brandenburg Concertos BWV 1046 – 1051

Complete Recording, Playing time >94 mins

Stuttgart Chamber Orchestra

#### **TACET D106**

Franz Schubert: Trout Quintet D667

Four Impromptus for Piano D899

Alvarez Quartet, Carmen Piazzini, piano

#### **TACET D108**

Johann Sebastian Bach: The Motets BWV 225-229

Saxon Vocal Ensemble

Conducted by Matthias Jung

#### **TACET D94**

Felix Mendelssohn-Bartholdy:

Octet in E flat major op. 20, Quartet in D major op. 44 no. 1

Auryn Quartet, Minguet Quartet

#### **TACET D110**

Franz Schubert:

String Quintet in C major

Auryn Quartet, Christian Poltéra

**TACET D111**

Johann Sebastian Bach:  
Violin and other Concertos  
Stuttgart Chamber Orchestra  
Solo Benjamin Hudson et al.

**TACET D107**

Wolfgang Amadeus Mozart:  
The Flute Quartets  
Gaede Trio, Wolfgang Schulz, flute

**TACET D112**

Romantic Piano Trios Vol. 3  
Frédéric Chopin: Trio G minor op. 8  
Niels W. Gade: Nouveletten op. 29; Trio F major op. 42  
Abegg Trio

**TACET D116**

The Gaede Trio Series Vol. VIII:  
W. A. Mozart: The Pianoquartets KV 478 and 493  
Gaede Trio, Markus Schirmer

**TACET D118**

String Quartets by Debussy, Fauré and Ravel  
Auryn Quartet

To be released soon:

**TACET D127**

Sergei Rachmaninov: Piano Trio "Trio élégiaque" No. 1 in G minor  
Pyotr Ilyich Tchaikovsky: Piano Trio in A Minor op. 50 (in memory of a great artist)  
Abegg Trio

**TACET D115**

Ludwig van Beethoven:  
Octet in E Flat Major op. 103  
Septet in E Flat Major op. 20  
Camerata Freden

TACET GmbH  
Daimlerstr. 40  
D-70372 Stuttgart  
Fax: 07 11/55 72 53  
Email: [info@tacet.de](mailto:info@tacet.de)  
[www.tacet.de](http://www.tacet.de)

